P. F. BURNS.

CASING AND PILING CONSTRUCTION.

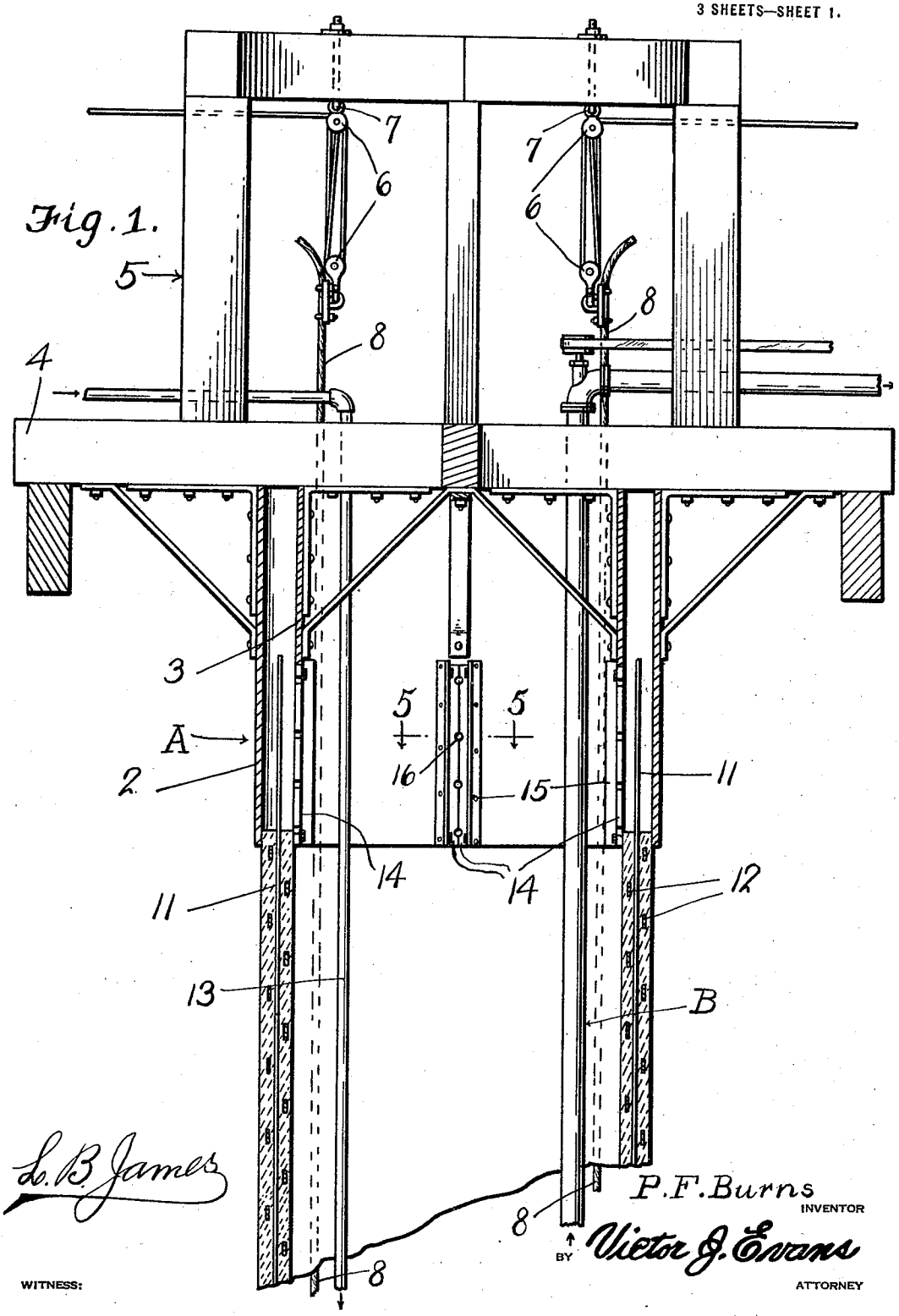
APPLICATION FILED SEPT. 10, 1920.

1,399,846.

Patented Dec. 13, 1921.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

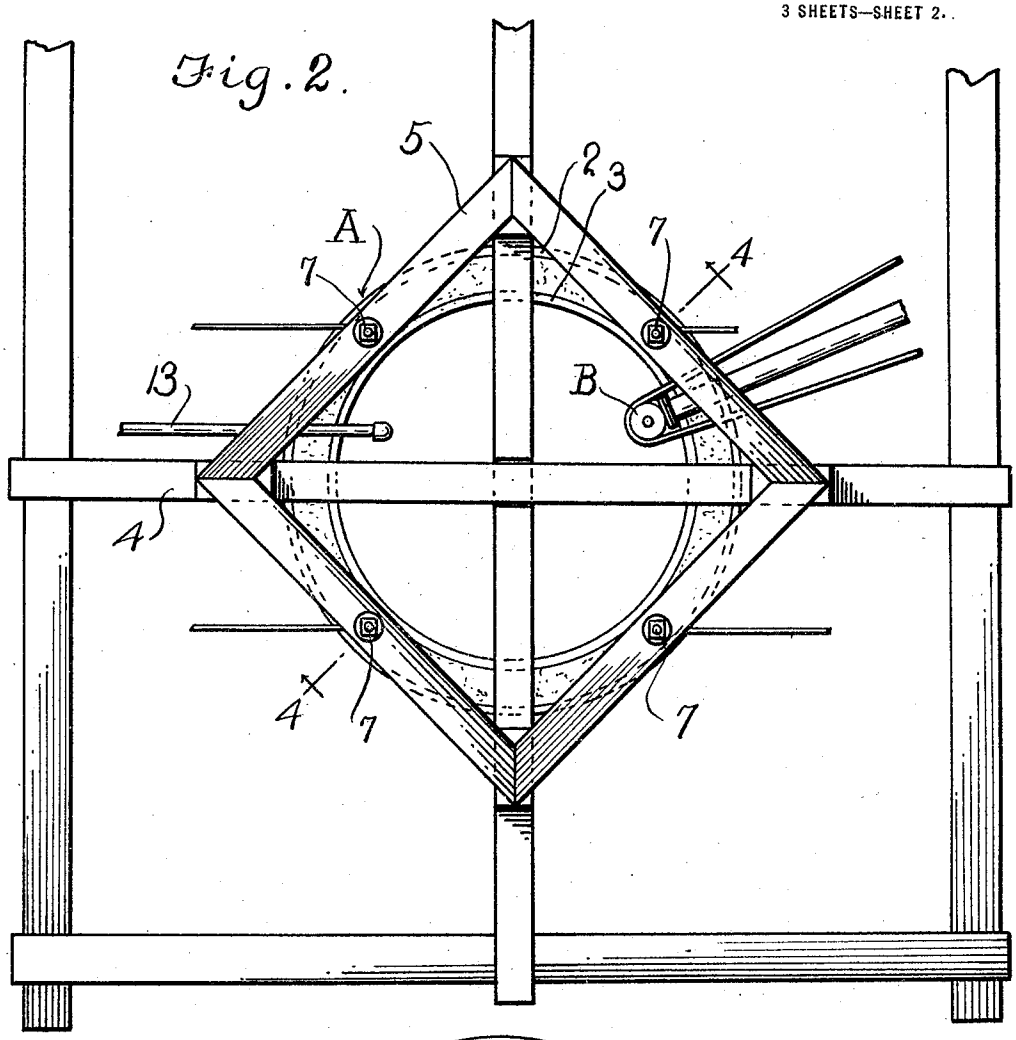
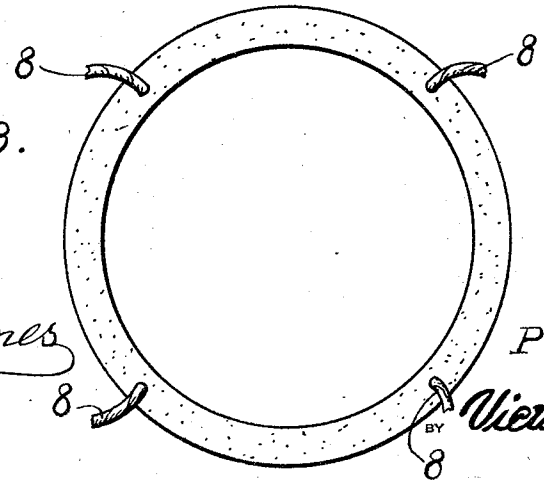


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

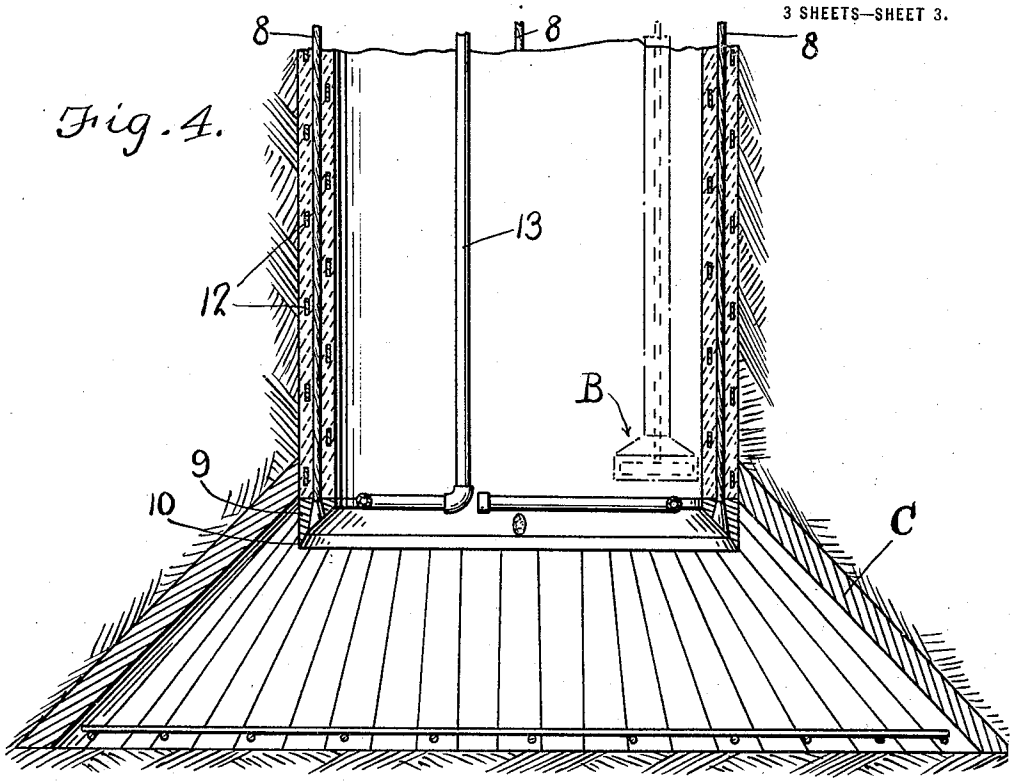
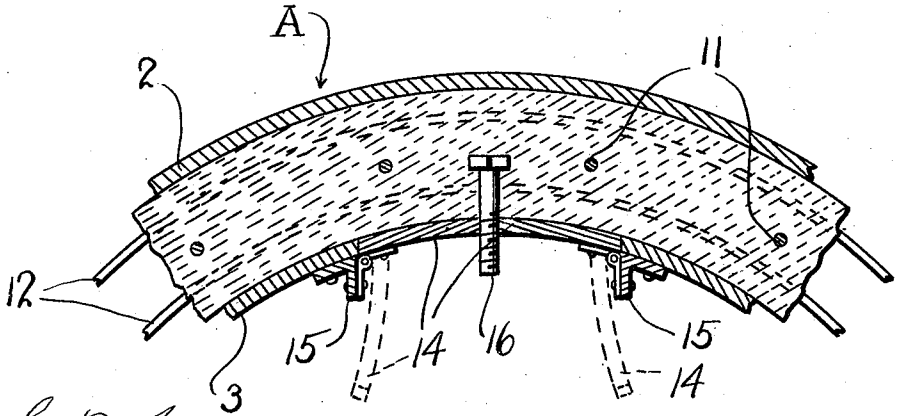


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CASING AND PILING CONSTRUCTION.

1,399,846. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed September 10, 1920. Serial No. 409,461.

To all whom it may concern:

Be it known that I, PATRICK F. BURNS, a citizen of the United States, residing at Baltimore, in the county of Baltimore City, and State of Maryland, have invented new and useful Improvements in Casing and Piling Constructions, of which the following is a specification.

This invention relates to an improved method of forming and sinking concrete casings for pilings and the like and also to the means for carrying out the method.

The general object of the invention is to form the lower part of the casing first and to add the rest thereof as it sinks by its own weight.

Another object of the invention is to provide a stationary form into which the concrete is poured and out of the lower end of which the casted part of the casing passes under the action of gravity.

Still another object of the invention is to provide a cutting member upon which the bottom of the casing rests for facilitating the passage of the casing into the ground, and this member forms the bottom of the form at the beginning of the operation.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a longitudinal sectional view through the form, the supporting platform and its associated parts, and showing a portion of the casing.

Fig. 2 is a plan view of the parts shown in Fig. 1.

Fig. 3 is a plan view of the casing and showing the arrangement of the cables.

Fig. 4 is a section on approximately the lines 4—4 of Fig. 2, and showing the lower end of the casing and the manner of forming the foundation therefor.

Fig. 5 is a section on line 5—5 of Fig. 1.

In these views A indicates a circular form which is composed of the outer shell 2 and the inner shell 3. The upper end of this form is secured to the platform 4 in any suitable manner. The platform is so made that the cement can be poured into the upper end of the form. This platform supports the framework 5 to which the blocks 6 are secured by the bolts 7. These blocks support the cables 8 which are arranged to pass through the form and have their lower ends connected with the annular member 9 which is provided with the cutting edge 10.

After the platform and the form are properly located the cutting member 9 is lowered into the form and this member will act as a bottom for the form to support the concrete. The concrete is then poured into the form to make the lower cast of the casing, it being understood that suitable reinforcing means are provided such as the rods 11 and the hoops 12. After this concrete has become sufficiently hard the cables are lowered to permit the cast with the cutting member at the bottom thereof to pass from the lower end of the form by its own weight. The upper part of the cast is held within the mold or form so as to receive the next cast. The material for this next cast is then placed in the form and then the cables are payed out to permit the finished part of the casing to sink and then a new batch is poured into the mold and this is kept up until the casing is of sufficient length.

If the casing should fail to sink under its own weight, jets of water may be forced around the cutting edge to assist it, this water being forced into the pipe or pipes 13 from any suitable source.

The cables will prevent the cast from slipping out of the form if a very soft spot of ground should be reached which would permit the cast to sink faster than the green concrete at the top is hardening.

It will of course be understood that a pump outfit, indicated generally at B, may be used for pumping out the water within the casing.

I form openings in the inner shell of the form and each opening is closed by a pair of doors 14 which are hinged to angle irons 15, secured to the shell. The adjacent edges of the doors are provided with recesses for receiving the projecting parts of bolts 16 or the like which are adapted to be placed in the concrete. In this way when the cast has hardened and is to be lowered, the doors are swung open to permit the bolts to move downwardly with the cast. These bolts may be used for supporting platforms

or the like. For instance, it might be necessary to provide air chambers in the casing and these bolts can be used for supporting the walls of these chambers.

Fig. 4 shows a structure C built around the lower end of the casing for receiving the foundation for the same.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising a platform, a mold supported by said platform, a cutting member, and controlling cables for regulating the movement of the cutting member and cast from the mold.

2. A device for forming concrete casings comprising a bottomless mold for receiving the cast, said cast being adapted to pass from the mold under the action of gravity and means for controlling the movement of the cast from the mold.

3. A device for forming concrete casings comprising a bottomless mold, supporting means for the same, means for regulating the movement of the cast from the mold and movable tongues in the inner mold for permitting projections to be inserted in the cast.

4. A device of the class described comprising a platform, a mold having its upper end connected with said platform and its lower end open, a framework supported by the platform, pulley blocks carried by the frame, cables supported by the said blocks and extending through the mold and a cutting member connected with the lower ends of the cables, said blocks permitting the cables to be payed out so that the cast and cutting member may sink under their own weight.

In testimony whereof I affix my signature.

PATRICK F. BURNS.